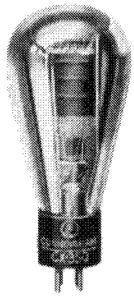
Cunningham RADIO TUBES

CX-350



POWER AMPLIFIER

The '50 is a power amplifier tube designed for use primarily in the output stage of an audio-frequency amplifier employing transformer coupling. It is capable of delivering unusually large amounts of undistorted power.

CHARACTERISTICS

Filament Voltage (A. C. or D. C.)			7.5	Volts
Filament Current			1.25	Amperes
Plate Voltage	350	400	450 *max.*	Volts
Grid Voltage*	−63	−70	−84	Volts
Plate Current	45	55	55	Milliamperes
Plate Resistance	1900	1800	1800	Ohms
Amplification Factor	3.8	3.8	3.8	
Mutual Conductance	2000	2100	2100	Micromhos
Load Resistance	4100	3670	4350	Ohms
Undistorted Power Output	2400	3400	4600	Milliwatts
Grid-Plate Capacitance		9		μμf.
Grid-Filament Capacitance		5		μμf.
Plate-Filament Capacitance		3		μμf.
Maximum Overall Length				6¼"
Maximum Diameter				2$^{11}/_{16}$"
Bulb (See page 42, Fig. 13)				S-21
Base				Medium 4-Pin Bayonet

* Measured from mid-point of a-c operated filament.

INSTALLATION

The **base** pins of the '50 fit the standard four-contact socket which should be mounted to hold the tube in a vertical position. For socket connections, see page 39, Fig. 1. Provision should be made for free circulation of air around the tube, since the bulb becomes quite hot during operation.

The coated **filament** is designed to operate from a 7.5 volt winding of the power transformer. However, if desirable, it may be operated equally as well from a d-c source. In either case the voltage applied to the filament terminals should be the rated value of 7.5 volts.

APPLICATION

As a **power amplifier,** the '50 should be operated as shown under Characteristics. Grid bias voltage may be conveniently obtained by means of the voltage drop through a resistor in the plate return lead. The proper value of this resistor is 1400 ohms for a plate voltage of 350 volts; 1275 ohms for a plate potential of 400 volts; and 1530 ohms for a plate potential of 450 volts. The '50 is not recommended for use in resistance-coupled circuits having a grid resistor.

If more output is desired than can be obtained from a single '50, two '50's may be operated either in parallel or push-pull connection. See page 13. When two '50's are operated together in the same amplifier stage, the values of the self-biasing resistors will be approximately one-half those shown above for a single tube.